understand the conditions presented, the author steps beyond the limits of the class Mammalia and exhibits the condition of the manus in a water tortoise (*Chelydra serpentina*). At the end of the work is a chapter on "The Correspondence between the Bones of the Anterior and Posterior Extremity and the Modifications of the Positions of the Limbs," and this is the only speculative and theoretical portion of the book. All the rest is a plain and clear statement of observed facts.

Some may be disposed to regret that there is not more "theory" in the work, but the reviewer believes that, considering the scope and object of the treatise, the introduction of theoretical views would be a blemish rather than a gain.

The work is addressed to students who are in earnest and really want to learn "Comparative Anatomy." Do such need to be attracted or encouraged by brilliant or startling theories, or will, on the other hand, they follow teaching which is simply the clear expression of actual facts? To this question it may be replied *solvitur ambulando*. Last year Professor Flower delivered in the theatre of the Royal College of Surgeons the very lectures which are now being reviewed, and the attendance of students was most remarkable, not only as to numbers who came but also as to their perseverance and constancy in attending.

The book is eminently a student's book. Obscurities of expression and unnecessary technicalities are carefully avoided; and any youth who provides himself with the bones of a dog, and reads it patiently, referring with care to his dog-bones all the while, may become a respectable osteologist. While if such a youth has access to a museum like that of the College of Surgeons, he may, with this work in his hand, lay the foundation of a really good knowledge of comparative anatomy; for every anthropotomist and teacher of human anatomy will admit how readily a knowledge of "soft parts" is acquired by one who thoroughly "knows his bones."

An excellent exercise for a student would be to take the skull of a rabbit and a pig, and write out a detailed description of each, modelled on the author's description of that of the dog.

Although the work is of such moderate bulk, yet owing to its convenient arrangement, and the thorough knowledge of his subject which the author professes, it is possible, by referring to it, to get an answer to almost any ordinary question respecting the bony structure of any mammal.

Professor Flower's new human bone, the *tympanohyal* (first described by him at the Liverpool meeting of the British Association), is shown to exist in other mammals, being very large, *e.g.* in the horse and the sheep.

Amongst so great a mass of facts, it is impossible but that there should not be some inaccuracies, without the slightest discredit thereby accruing to the author; for the laws of animal structure being but empirical, a "black swan" is at any moment liable to turn up and falsify the simplest and most useful generalisation. Thus it may turn out that the generalisation, "the *Simiina* are remarkable in never having an ossified stylohyal," is not strictly accurate, but the author having examined hundreds of skulls and never having found one so furnished, was amply justified in making the assertion. Any attempt to depreciate a work by carping criticism upon details of that kind can result only in discredit to the critic himself.

In conclusion, the reviewer is of opinion that Prof. Flower's "Osteology" should be warmly recommended to all students of comparative anatomy; while even to many advanced zoologists it will prove a work not only of much interest, but one conveying substantial, important, and trustworthy information.

F. R. S.

NOTES

So far as the delegates are concerned, the amalgamation of the Ethnological and Anthropological Societies is complete, under the name of the Anthropological Institute of Great Britain and Ireland, and the separate societies have ceased to exist. All property, effects, debts, and liabilities are to be taken over by the new society. The new officials taken from the two societies are: President, Sir John Lubbock (E.), Vice-Presidents, Prof. Huxley (E.), Tylor (E.), Prof. Busk (E.), Dr. Charnock (A.), Dr. Beddoe (A.), G. Harris (A.). Treasurer, Flower (E.). Council.—Blackmore (E), Bohn (E.), Archibald Campbell (E.), Hyde Clarke (E., A.), Boyd Dawkins (E.), Dunn (E.), David Forbes (E.), Col. Lane Fox (E., A.), T. M'K. Hughes (E.), M'Lennan (E.), Pusey (E., A.), Braybrooke (A.), W.C. Dendy (A.), Dr. King (A.), F. G. H. Price (A.), Dr. Harcourt (A.), Des Ruffieres (A.). Director, C. Staniland Wake (A.); Assistant-editor of the Journal, F. W. Rudler (E.). The last meeting of the Ethnological was held on Tuesday, and the last meeting of the Anthropological will be held on Tuesday next, when the old arrangement will cease, and other meetings will be fixed by the new council.

A DETERMINATION to take advantage of any opportunity for making scientific inquiries, is the principal feature of the present crisis among French scientific men. It is carried so far that the French Institute has appointed a committee to inquire into the effects of the shelling as well on the buildings as on the inhabitants. The specialities presented by the wounds have been reviewed in a very able essay, written by Baron Larey, in the *Revue des Cours publiques*, published by Baillière, but which has not appeared regularly. Some other essays on the same subject have been written by different medical men in the same periodical, and in some political papers.

THE increase of the mortality is a feature of the present crisis in Paris. The winter number of deaths is generally 1,000 or 1,200 a week; but in the last few weeks it has amounted to 3,000. This is not owing to any particular epidemic, although the small-pox has destroyed many victims. The larger amount of fatal cases is owing to the exposure, the want of proper food suited for infants and invalids, and the scarcity of fuel. Moral causes have also seriously affected invalids and old persons to a very large extent. Affections of the lungs are prevalent in that portion of the population.

THE large conservatory for *Orchidaceæ* in the *Jardin des Plantes* at Paris has been destroyed by a Prussian shell. The glass-work was broken, and the plants, which are so delicate, were lost without any hope of recovery. The losses are very serious, as the collection had many valuable specimens obtained from the occupation of Mexico, and from the exertions of the French Scientific Commission, which had been sent to America to explore the Empire of the unfortunate Maximilian. M. Chevreuil, the Director of the Museum, has addressed to the Academy of Sciences the following protest:—"The garden of medicinal plants, founded in Paris by an edict of King Louis XIII., dated January 3, 1626, became a Museum of Natural History on the 23rd May, 1794. It was bombarded in the reign of William I., King of Prussia, Count Bismarck being Chancellor, by the Prussian army, on the night of the 8th-9th January, 1871. Until then it had been respected by all parties, and by all national and foreign authorities. Paris, January 9, 1871." The Academy has determined that the protest of M. Chevreuil shall be printed at the head of its reports, and the Committee of Professors of the Museum have decided that a marble monument, with an inscription of the protest, shall be placed in one of the galleries of the building, surrounded with projectiles thrown from the enemy's batteries.

THE Polytechnic School has been opened at Bordeaux. M. Gambetta delivered an inaugural address. The director is M. Serrey, Member of the French Academy; but the larger number of the professors are now besieged in Paris, serving in the ranks of the National Guard. They mostly belong to the artillery. Among them are M. Janin, Professor of Physics; M. Laussedat, Professor of Topography; M. Moutard, Professor of Mathematics; M. Manheim, Professor of Descriptive Geometry.

ARRANGEMENTS for instruction in Practical Chemistry have now been completed at the London Institution, Finsbury Circus, by the opening of the Chemical Laboratory, under the direction of Dr. Henry E. Armstrong, for the reception of students requiring instruction in Analytical Chemistry and the methods of Original Investigation. The evening class for Elementary Chemical Analysis will commence work on Feb. 13, and will meet three times a week, on Monday, Wednesday, and Friday, from 6 to 8 P.M. from February to May. All students must be nominated by a proprietor, and the sons of proprietors have an advantage in the fees charged.

THE Young Men's Christian Association of New York announces a course of popular scientific lectures by Dr. Doremus, on the "Triumphs of Modern Science." "The subject is an interesting one, but we regret," says the *New York Technologist*, "to see that the Association has placed the price of tickets at 1½ dols. per lecture, or 5 dols. for the course of four. At this rate, many young men who would otherwise attend and be interested, will prefer to pay a less amount and visit Booth's, or even the opera-house of Jim Fisk, jun. We presume that the managers will claim that the enormous expenses incurred for chemical and physical illustrations render this high price necessary. This may be true in their case, but it is a pity that they and their lecturer should forget that neither Science itself nor its popularisation depends upon magnificent spectacular effects. It this were the case, then Tweed, Sweeny, and Hall, with their free entertainments given every 4th of July at the expense of the city, can beat any scientific lecturer in the country, and even Fisk, with the gorgeous scenery of his Twelve Temptations, will prove more attractive than Huxley or Tyndall. A good experiment, so extensive as to be visible in all parts of the audience hall, and so pertinent that it gives a perfect illustration of the point under discussion, is a thing that we admire above all things. But the burning of a pound of potassium, merely for the sake of making a blaze and a smoke; the burning of diamonds, which, when performed on the lecture table of a popular audience hall, proves nothing, and is the sheerest mountebankery; the dragging in of an aquarium, merely for the sake of advertising the maker's name; and in short, everything that does not aid the hearer in obtaining clear ideas in regard to the matter in hand, ought to be rigorously excluded. The simplest experiment, performed with the cheapest apparatus, becomes beautiful and interesting beyond any display of fireworks, when it clearly illustrates some great physical truth, while the most gorgeous display will, of itself alone, fail to excite that intellectual interest that is so far superior to mere physical emotion. In the name of Science, therefore, and of that intellectual progress, of which our Young Men's Christian Association should be the promoters and advocates, we protest against a system which degrades the scientific lecture to a level with the performances of Houdin or Signor Blitz." Sensible language this, and deserving of note in this country as well as America.

WE learn from the *American Technologist* that the scientific lectures delivered and to be delivered this session before the American Institute are as follows:—Tuesday evening, December 20, 1870, The Struggles of Science, by George B. Loring, M.D., of Salem, Mass.; Tuesday evening, December 27, 1870, How we stand and walk, by Prof. Burt G. Wilder, of Cornell University, Ithaca, N.Y.; Friday evening, January 6, 1871, The Triumphs of Modern Surgery, by Prof. F. H. Hamilton, of Bellevue Hospital Medical College, New York; Friday evening, January 20, 1871, On Water, by Prof. C. F. Chandler, of Columbia College, New York; Friday evening, January 27, 1871, On Tides and Tidal Currents, and their effects upon Harbours, by J. E. Hilgard, of the U.S. Coast Survey, Washington, D.C.; Friday, February 3, 1871, On Light, by Henry Morton, President of Stevens Institute, Hoboken, N.J. These lectures are free to members of the Institute and their families, and are an evidence of the earnest work which this association is accomplishing in the way of the diffusion of knowledge.

THE centenary anniversary of the birthday of Humboldt was celebrated in Boston by the raising of a subscription to the amount of 7,040 dollars, which has been placed in the hands of the trustees of the Museum of Comparative Zoology as a Humboldt Scholarship for the benefit of young and needy persons engaged in study at the Museum, and the officers of the Museum have formally accepted the trust.

THE wonderful bore of five miles through the Hoosac Mountains goes forward with persistent steadiness, and bids fair to be an accomplished fact in 1874, as promised by the contractors. Some conception of the magnitude of this great work may be formed when it is known that at the west end the workmen have fully one-third of a mile of solid mountain above their heads.

A ZOOLOGICAL Garden in Central Park, New York, has been objected to on the following grounds:—The defect of the Central Park is a lack of breadth and repose. This defect grows out of the natural limitations fixed by the original rocky surface of its site, and from the necessity of providing structurally for the convenience and safety of great throngs of people in a public pleasure-ground that is expected finally to be situated in the heart of a densely populated city. The impracticability of making, in either section of the Park, open spaces of greensward as large as desirable was recognised from the outset, but as much as possible was done to gain ground in this direction, and the central meadow stretches are the result in the upper Park. They supply two connected spaces, each about a quarter of a mile in extent, partially separated by a mass of rock and almost completely surrounded by a border of indigenous trees, which are already beginning to take on umbrageous forms and to cast broad shadows over the now well-established turf. These meadows constitute the only broad space of quiet rural ground on the island which has been left undisturbed by artificial objects, and much labour has been expended to render practicable the preservation of their present general character. A Zoological Garden must be made up to a considerable extent, if not altogether, of small scattered buildings and small fenced yards; it requires little breadth or unity of surface in its site, and it must be adapted to recreation of a completely diverse character from that which this ground has been prepared to serve.

THE busy town of Sheffield, we are glad to see, is waking up to a sense of its position as one of the industrial centres of England. A meeting was recently held to consider the propriety of presenting the Museum of the Literary and Philosophical Society to the town, on condition that a Free Public Museum be established by the Town Council, and a suitable building be erected. The President of the Society, Mr. H. C. Sorby, occupied the chair, and briefly opened the meeting. The Master Cutler, Mr. W. Bragge, then rose and proposed the following resolution, "That upon the establishment by the Town Council of Sheffield of a Free Public Museum and the provision of such accommodation for it as the Council of the Literary and Philosophical Society shall deem suitable, the said Society hereby authorises its Council to transfer to the said Free Public Museum its collections of specimens illustrating natural history, geology, mineralogy, antiquities, numismatics, ethnology, and industrial art, and also such apparatus as is of historical interest, together with the cases containing the said articles, but not its library nor modern scientific apparatus." After some discussion, the resolution was put to the meeting and carried unanimously.

Dr. Cobbold describes, in the *British Medical Journal*, an Entozoön which, if not actually, is practically unknown to the most experienced helminthologists. The *Stephanurus dentatus* is a species of Strongylus which has hitherto been described only by the late Professor Diesing of Vienna in the *Annalen des Wiener Museums*, a scarce book to obtain. It is not fully described in any of the systematic works, and appears never to have been seen by Kuchenmeister or Von Siebold. The interest of this observation consists less in the ready identification of the parasite by Dr. Cobbold, than in the abundance with which, according to Dr. Fletcher of Indianopolis, who forwards the specimen for examination, it is found in the hogs slaughtered in that part of the world. The bearing of this observation on the extension of parasitic disease remains yet to be determined. The suggestions arising out of Dr. Cobbold's observation will, no doubt, be followed out by local inquirers; and we shall expect to hear more of this hitherto rare, and probably interesting, stranger.

At a recent meeting of the Scientific Committee of the Royal Horticultural Society, Mr. Alfred Smee exhibited some lemons from Sicily attacked by a species of coccus, quite distinct from the well-known coccus of the orange, and apparently an undescribed species. It was stated that nearly the whole of the lemon-crop in Sicily is attacked by this parasite, which renders it almost valueless for the English market. Although the juice is not much affected, the skin is completely spoilt and rendered uncrystallisable; by far the most important use of lemons in this country being of the rind for use by confectioners. The root appears to be at the same time attacked by a fungus.

At the close of 1870 the numbers of the several classes belonging to the Institution of Civil Engineers were:—16 honorary members, 709 members, 1,010 associates, and 201 students, together 1,936, as against 1,802 at the same date last year, showing an increase at the rate of 7½ per cent. in the twelve months.

In analysing the statistics of inquests held as Coroner of Central Middlesex, Dr. Lankester points out, in his seventh annual report just prepared, that the proportion of suicides to the population in England and Wales is 1 in 12,000 of the population, while the proportion in Central Middlesex is about 1 in 13,000 of the population. The figures seem to show that of all causes of death suicide is the most constant. The proportion in which the sexes commit suicide is nearly everywhere the same. It may be stated that the proportion of males to females is as five to two. The ages at which suicide is committed are for the seven years nearly the same. One in twelve are young people under 20 years of age; a larger proportion amongst people above 60; and the remainder, four-fifths of the whole, are equally divided amongst people from 20 to 40 years of age. A further analysis of the cases shows that, as a rule, women prefer taking poison and drowning themselves. Of the twenty-three cases of female suicide in 1868-9, six were from poison and ten from drowning. Women seldom cut their throats or hang themselves, whilst, of the sixty-six cases of male suicide, exactly half chose these methods of self-destruction. Men are also more given to jumping out of windows and from the tops of high places.

An admirable paper on "The Food and Habits of Beetles," by Mr. Townend Glover, appears in a recent report of the Commissioner of Agriculture for Washington. It contains brief descriptions of the beetles which are injurious to vegetable or animal substances, with their common and scientific names, and nearly 200 figures, roughly but characteristically executed. An alphabetical list of the principal substances frequented by beetles is given at the end, with cross references to the first part of the paper.

The Winchester and Hampshire Scientific and Literary Society, which was formed in 1869, has issued its first report. From this we learn that over 100 members have joined, and that the meetings are frequent and well attended. The papers are not confined to subjects connected with natural history, but embrace archæology and kindred topics. There is a botanical section, of which Mr. Frederick J. Warner is secretary; and we gather from the report that a flora of Winchester is in contemplation. It is perhaps not too much to hope that, with the aid of the Newbury Club, a complete flora of Hampshire may be undertaken by the society. The President is the Rev. C. A. Johns, Mr. A. Angell, jun., acting as the hon. secretary. The meetings are held on the second Monday of each month. The annual subscription is 10*s*.

The *Scottish Naturalist* states that a work on the Birds of Scotland, by Mr. Robert Gray, Secretary to the Glasgow Natural History Society, is in the press; and that Mr. Howie, Secretary of the Largo Naturalists' Field Club, is drawing up, for publication, a catalogue of the plants of Fifeshire.

A journal is published in Liverpool, under the title of "Cope's Tobacco Plant, a Monthly Periodical, interesting to the Manufacturer, the Dealer, and the Smoker," from the January number of which we quote the following:—"Huxley and Friends—Attention! An American exchange says:—'Professor Huxley may become a good Christian yet; he smokes now, after forty years' hostility to tobacco.' Now, at cost of losing ground for ourselves, we ask Professor Huxley and his friends—Will they admit that the distinguished gentleman was not a Christian during those forty years when he abstained from tobacco? And that the first step towards his salvation was—smoke? We expect an answer; because, should we be in danger of yielding to the arguments of zealous anti-tobaccoites, we might fall back upon that most infallible of argument-stoppers, the religious sentiment."

A letter in the *Gardener's Magazine*, which has just come to our notice, imputes a grave charge of false teaching to the authorities of the South Kensington Museum. The writer says:—"In the Educational Series is a large glass case of British butterflies, conspicuously labelled 'The Gardener's Foes.' The case contains forty-three out of the sixty-six native species. Now, the idea of all these, or even the majority of them, being injurious, is most absurd, and tends to perpetuate erroneous notions, and to exterminate these beautiful creatures from the land." Then follows an enumeration of the species exhibited, and the names of the plants upon which, according to the writer, the insects actually feed, most of them being roadside weeds. We draw attention to this in order that "erroneous notions," on whichever side they may be, may *not* be "perpetuated."

Gold ore having been discovered in Madagascar, the Government of the island has prohibited the search. If gold is discovered in remunerative quantities, there will be such a rush of Europeans to the country as will dispossess the native inhabitants.

The African diamond fields are being overdone; they have become the seat of an extensive population. A little canvas town has rapidly sprung up on the banks of the Vaal River. Stores have been opened, the rival proprietors of which advertise their wares in a newspaper devoted to the diamond interest, and printed on the field; and, finally, a music-hall has been started for the amusement of the thousands of diggers, who with their wives and children are now encamped in the "happy valley."